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**A FRAMEWORK FOR MANAGING TELECOMMUNICATIONS DEREGULATION
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May 11, 1996

Prepared for *The 2nd Annual Conference of the Consortium
for Research on Telecommunications Policy*
Northwestern University, Evanston, Illinois, May 10-11, 1996

* An earlier version of this paper was presented at the *23rd Annual Telecommunications Policy Research Conference*, Solomons, Maryland, October 2, 1995.

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I. INTRODUCTION

The telecommunications industry is in a period of transition from regulated monopoly to competition. This process, which began with the Carterfone decision in 1966, has been accelerating since the divestiture of AT&T and its operating companies in 1984. The current flurry of deregulatory initiatives at both the federal and state levels is likely the prelude to even more rapid and far reaching deregulation in the next several years. Movement to a largely competitive industry does not imply a total absence of regulation, however. As in the past, society, as reflected in the decrees of regulators and lawmakers, still holds expectations for telecommunications that are not likely to be met by an industry totally unconstrained by regulatory and legal requirements. The various performance obligations, including ubiquity and continuity of service and socially defined reasonable prices, that are implicit in the policy goal of universal service are good examples.

To be effective, it is important that the ways in which policy mandates are implemented not be inconsistent with the underlying economic logic of the industry affected. As a result, it is likely that different approaches will be required to achieve telecommunications policy goals in the emerging competitive industry than those that worked under the passing regime of regulated monopoly. In recognition of this fact, legislative and regulatory bodies have been revising the rules governing telecommunications carriers. Unfortunately, this transition has been occurring through piecemeal changes of the regulatory apparatus, rather than as a result of a clearly articulated vision of how the various regulatory rules and requirements interrelate and how they might be coupled structurally to accomplish various objectives.

This paper develops a typology for mapping social goals concerning marketplace activities to the regulatory interventions, if any, necessary to accomplish those goals. As will be shown, some goals can be achieved without regulatory intervention, while others cannot. Furthermore, when intervention is necessary, the type of intervention must vary with the type of problem being addressed. A critical distinction is between goals that can be achieved through requirements unilaterally imposed on firms in an industry and goals that require the use of bilateral arrangements in which some form

of compensation or privilege is provided by government in exchange for the performance of otherwise unremunerative activities. Furthermore, bilateral arrangements themselves must differ depending on the degree of vulnerability to expropriation.

Deregulation of telecommunications to date has not been guided by a recognition of the importance of the distinction between unilateral and bilateral arrangements for regulatory design. This is not surprising given the historical context of franchise monopoly in which such a distinction has no meaning. However, as we come to rely increasingly on the performance of a competitive telecommunications industry to accomplish policy objectives, it becomes essential that regulatory rules compatible with competition be designed and, to the extent that the achievement of important policy goals requires restrictions on competitive processes, the need for these restrictions be anticipated in advance. The typology of regulatory rules developed below supports an analytical framework for assessing the merits of different types of regulations that might be employed in a more competitive telecommunications industry and determining the nature of restrictions on competitive processes required to achieve important policy goals. Application of the framework is illustrated with an analysis of the rules and regulations that have been developed in the United States to further policy goals associated with universal service.

II. A Framework for Ensuring Goal-Rule Compatibility in a More Competitive Telecommunications Industry

We begin with the simple observation that a wide variety of social goals are not achievable in an unregulated marketplace. This occurs for a variety of reasons. One is that society may not approve of the types of products supplied by markets, pornography being an obvious example. Another is that markets may suffer from various imperfections leading to inefficiency in the supply of goods and services society does want. Private markets also may not serve some individuals whom society would like to have served.

Policy responses to these problems take a variety of forms. Prohibitions of varying degrees are common responses to the provision of unwanted goods and services. On the other hand, the response to problems concerning

the provision of goods that themselves are inherently desirable is typically some type of governmental intervention in the economy to alter the manner in which these goods are produced and/or distributed. State provision, as with public schooling, is the most dramatic form of intervention. More typical, at least in market economies, are interventions that affect the provision of goods and services by privately owned firms. If we accept this as an inclusive definition of regulation, then it is clear that just about all economic activities are regulated to some degree. From this perspective, it is clear that what is commonly spoken of as a transition from regulation to competition in telecommunications would be better described as a movement to an industry in which regulation plays a less intrusive role in the functioning of the industry than it does now.

A. Compatibility Between Policy Goals and Regulatory Interventions

Any plan for a more competitive telecommunications industry must have both: (1) a long term vision that defines policy goals and appropriately matches them with regulatory instruments to achieve those goals, and (2) mechanisms for dealing with the transition from the current state of affairs to the one that is desired in the long term. This section explores issues, relating to both the role of regulation in a more competitive industry and steps that must be taken to facilitate the transition, in terms of goal-intervention compatibility--the extent to which the achievement of policy goals is actually facilitated by the regulatory interventions employed.

Two aspects of compatibility are important. One is whether a given social goal is in fact achievable through the selected form of regulatory intervention. If so, the goal and the regulatory intervention are compatible. Because we are typically trying to achieve multiple goals, it is also important to ask whether a particular combination of social goals is achievable given the interventions employed. If so, then that combination of goals and the associated set of interventions are compatible.

There may be many reasons why either form of compatibility is not realized. An individual goal-intervention combination may not be compatible because the intervention does not address critical problems associated with achieving the goal. For example, subsidized prices for local

rates will not increase telephone subscribership among households who refuse to take service due to high toll bills. Goals may also be inherently incompatible with each other, which precludes their joint realization. Fiber to the home and low cost local service are examples of goals that cannot be achieved simultaneously, at least not with current technology. The primary threat to compatibility addressed here is the possibility that the selected policy intervention will make the activities of the regulated agent financially unsustainable and, for this reason, unable to contribute to the attainment of policy goals.

B. Principles for Ensuring Compatibility of Regulatory Interventions with Policy Goals

1. Unilateral and Bilateral Rules

While regulation may take an almost infinite variety of forms, we are concerned with two broad categories of regulation, which we will call unilateral rules and bilateral rules. Excepting government as a direct supplier of a good or service as a form of regulation, all other forms of regulation are subsumed by these two categories.

Unilateral rules are performance requirements imposed by the government on firms as a condition for providing service without any assurance by the government that the affected firms will be able to generate revenues sufficient to cover the associated costs.¹ Minimum wage laws, Occupational Health and Safety requirements for workplace safety, product reliability standards, and nutritional labeling are among the many unilateral requirements that are commonly encountered.

Bilateral rules differ from unilateral rules in that affected firms receive some form of compensation or special consideration in exchange for meeting government-specified performance obligations. With a bilateral rule, the government and a regulated firm acknowledge mutual and specific obligations toward each other. Bilateral and unilateral rules also sometimes

¹ In some cases unilateral rules may also be viewed as granting some benefit or privilege, rather than imposition of a requirement, by government to private providers engaged in an activity. An example is a tax credit. However, a tax credit can also be viewed as just a change in a unilaterally imposed performance requirement. In any event, as to unilateral rules, this paper is concerned primarily with the imposition of performance requirements rather than the granting of a benefit.

differ in that obligations on private parties are imposed by unilateral rules but are usually accepted under bilateral rules.

Within the category of bilateral rules, we define two types of relationships. *Bilateral agreements* are performance requirements imposed by government on firms which are coupled with financial compensation to the affected firms to cover some of the costs associated with the requirements.² *Bilateral commitments* are performance requirements undertaken by firms in exchange for which the government accepts some degree of responsibility and provides some form of assurance for the financial health of the firms taking on the requirements, including the provision of safeguards against the threat of regulatory expropriation of the investments required to provide service.

U.S. federal and state government Lifeline and Linkup programs, which provide funding to local exchange companies for the provision of service to low income customers, are examples of bilateral agreements. In this situation, governments provide explicit funding to the local exchange companies but assume no responsibility for the companies' overall financial health. On the other hand, the regulatory contract, as described by Goldberg,³ Williamson,⁴ and Wiggins⁵ is a form of bilateral commitment. This is because the regulated firm agrees to provide service at a certain price in exchange for a promise of continuity of service that is feasible only because government gave an assurance, that is, a monopoly franchise, which gave the firm a reasonable expectation of providing service at compensatory rates for a sufficiently long period to realize a fair return on sunk investments.⁶ For bilateral commitments, some form of restriction on entry by competitors is

² As with unilateral rules, in some cases bilateral agreements involve the granting of some benefit or privilege by government to the private party. But, by contrast, the private party must provide some *quid pro quo* in exchange. In most instances, the bilateral agreements discussed in this paper concern a firm providing a requested service in exchange for compensation by the government.

³ Goldberg, "Relational Exchange," 23 *American Behavioral Scientist* 337-352 (1980); Goldberg, "Regulation and Administered Contracts," 7 *Bell J. of Economics* 426-448 (1976).

⁴ Williamson, "Franchise Bidding for Natural Monopolies - in General and With Respect to CATV," 7 *Bell J. of Economics* 73-104 (1976).

⁵ Wiggins, "The Economics of the Firm and Contracts: A Selective Survey," 147 *Journal of Institutional and Theoretical Economics* 603-661 (1991).

⁶ Patent laws are another example, where the prospect of earning a return on investments in innovations can be protected through grant of a patent, which provides for exclusive use of the innovation covered by the patent for a substantial period of time. Like an exclusive utility contract, this is an *ex post* barrier to entry.

usually a critical component of the governmentally provided assurance for the firm's financial viability.

There are limits, however, on the government's use of unilateral and bilateral rules. As the later discussion of the legal history makes clear, important restrictions are imposed by constitutional provisions of both the United States and State Constitutions. The typology of economic regulation just discussed is depicted in Flowchart 1.

Obviously, a bilateral rule, particularly a bilateral commitment, is a more intrusive form of government intervention in the marketplace than is a unilateral rule. For this reason, success in making a transition to competitive telecommunications markets will be determined by: (1) the extent to which regulatory policy goals that will not be met by market forces alone can be achieved through unilateral rules imposed on competitive firms, and (2) the extent to which natural market tendencies must be suppressed to implement those bilateral rules that might be required.

2. Competition and Choices Among Rules

There are three sets of conditions under which policy goals may not be achieved through unilateral rules imposed on competitive firms. (1) The cost of meeting the unilateral requirements may be so high that only one or a few firms can generate revenues sufficient to cover their costs. (2) The cost of a unilateral rule may not be shared equally by all firms in an industry. This could happen either because the requirement is asymmetrically imposed on an industry's firms (i.e. not symmetric on its face) or because firms differ in their ability to evade the requirement (i.e. not symmetric in effect). (3) The desired behavior may be financially feasible only if competition is suspended.

As to the first set of conditions, the potential for costly unilateral rules to harm competition is quite obvious. If unilateral rules add costs for which the affected firms cannot generate equivalent increases in revenue, then the number of firms in an industry must decline. If too many firms exit, the industry will no longer be competitive. (In the extreme, the costs of satisfying unilateral requirements may be so high that no firms will offer service.) Under some conditions, however, competition may be preserved, if a unilateral rule is converted to a bilateral agreement through the provision of some form of compensation. Food stamps are an example of such an approach.

The problems associated with asymmetry in regulatory burdens, the second set of conditions, is a bit more subtle, but still straightforward. Products are priced at cost in competitive markets, where cost includes the cost of meeting regulatory burdens. If the financial burden of a unilateral rule is greater for some firms than for others, unless those firms bearing the greatest burden start out with a cost advantage, they will be driven from the industry. While this is not a particular problem if the firms exiting are less efficient at complying with a unilateral rule, it is a problem if those for whom the burden is least are merely better able to avoid obeying the rule, or if, due to the way the rule is designed or enforced, their burden is less than for other firms in the same industry. In this case, otherwise efficient firms may be driven from the industry and competitive outcomes will be characterized by adverse selection favoring those firms that are best at either evading the unilateral rule or working the political process to guarantee themselves a less than proportionate share of its cost.